



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:	Boris Filanovsky	§	
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For:	Electrochemical Method and Sensor	§	Attorney Docket: 3102/1
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Commissioner of Patents and Trademarks  
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DECLARATION UNDER 37 CFR 1.132

Further to the results of Figure 2 of the present application, another experiment was performed ( with results attached herein as Fig. A) with the same modified working electrode, carbon paper modified with gold deposition, i.e. having a surface modified by a treatment thereof with a monomeric amino-aromatic compound (aniline) by treatment thereof with said monomeric amino-aromatic compound (aniline) dissolved in an organic polar solvent ( dimethylsulfoxide). One of the important problems in voltammetric measurement in the cathode range is to separate the the peak of interest from the oxygen peak. The data of Figure A show a background curve 1 with a peak of dissolved oxygen at -0.64V. In the present of TNT, (curve 2) the TNT peak is at 0.4V, while the oxygen peak is shifted to 0.6V. The shift  $\Delta E$  between TNT peaks is 200mV. These results (in addition to those of Figure 2) show the advantage of using the modified electrode and an electrolyte which is a mixed solvent such as water and an organic solvent, (water, ethanol, acetonitrile, 1:1:1 v/v) . In comparison to Wang-1 (Fig 1), for instance using an unmodified bare carbon electrode, the TNT peak superposes the oxygen peak resulting in decreased current sensitivity. The separation of the background oxygen peak and the TNT peak allows the present invention to be used with a mechanism for inputting air suspected to include the nitro-aromatic compounds, i.e. an air inlet, and therefore trace TNT may be detected in air with high sensitivity.

I hereby further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statement may jeopardize the validity of the application of any patent issued thereon..

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Date 19/11/2006

